REMARKS

This paper is being provided in response to the Office Action dated May 27, 2009, for the above-captioned application. In this response, Applicants have amended claims 1, 4, 7, 14, 22 and 23 to clarify that which Applicants consider to the presently-claimed invention. Applicants respectfully submit that the amendments to the claims are fully supported by the originally-filed specification, consistent with the discussion herein. Further, Applicants have amended the specification and drawings for purposes of clarification, as noted herein. Applicants respectfully submit that the amendments to the specification and drawings do not add new subject matter.

Applicants thank the Examiner for the indication of allowable subject matter in claim 14. Applicants have rewritten claim 14 into independent form to incorporate the features of the base claim and any intervening claims and have addressed the rejections under 112, as noted below. Accordingly, Applicants respectfully submit that this claim is in condition for allowance.

The objections the drawings have been addressed by amendments contained herein in accordance with the guidelines as set forth in the Office Action. Applicants have amended Figure 4 to identify the elastic layer 7 in accordance with the discussion thereof on page 12 of the specification. Further, Applicants have corrected the identification of the internal threads on page 13, line 4 of the specification to refer instead to reference numeral 9' and have made corresponding amendments to Figure 4 in respect thereof. Applicants note that the occurrence of the reference character "28" designating the bottom foot portion on page 14, line 4, was previously addressed by deletion of this numeral 28 in the specification, as amended by the Preliminary Amendment filed with the nationalization of the present application on April 21,

2006. Accordingly, Applicants respectfully request that the objections be reconsidered and withdrawn.

The rejections of claims 1, 7 and 22 under 35 U.S.C. 112, second paragraph, as being indefinite have been addressed by amendments contained herein in accordance with the guidelines set forth in the Office Action. Accordingly, Applicants respectfully request that the rejections be reconsidered and withdrawn.

The rejection of claims 1-4, 10-11, 21 and 23-25 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent App. Pub. No. 2003/0066836 to Sakaguchi, et al. (hereinafter "Sakaguchi") is hereby traversed and reconsideration is respectfully requested in view of the amendments to the claims contained herein.

Independent claim 1, as amended herein, recites an electromagnetic valve for a gas cylinder that includes a valve body. A threaded portion of the valve body with an external thread is screwable into an internal thread on the gas cylinder. A portion of the valve body projects into the gas cylinder. A shut-off piston and electromagnetic control elements are provided by which the shut-off piston is movable from an open position to a closed position, wherein the valve body for receiving the shut-off piston and the electromagnetic control elements has a cavity which is disposed inside at least one of: the threaded portion and the portion of the valve body projecting into the gas cylinder, and wherein a mouth of the cavity is disposed on a head end of the valve body situated outside of the gas cylinder, and the shut-off piston and the electromagnetic control elements can be inserted into the cavity through the mouth. A manual shut-off valve is provided

for interrupting gas flow from the gas cylinder to the cavity. Claims 2-13, 15-18, 21 and 22 depend directly or indirectly from independent claim 1.

Independent claim 23, as amended herein, recites an electromagnetic valve including a valve body, wherein said valve body includes an attachment mechanism and a projection portion that projects into a gas cylinder. A shut-off piston is provided and electromagnetic control elements control movement of the shut-off piston from an open position to a closed position, wherein the valve body includes a cavity disposed in the projection portion, and wherein a mouth of the cavity is disposed on a head end of the valve body distal from the projection portion, and wherein the shut-off piston and the electromagnetic control elements are disposed in the cavity and are externally accessible through said mouth of the cavity. A manual shut-off valve for interrupting gas flow from the gas cylinder to the cavity. Claims 24 and 25 depend directly from independent claim 23.

Applicants' independent claims 1 and 23 have been amended herein to recite that a manual shut-off valve is included in the electromagnetic valve for interrupting gas flow from the gas cylinder to the cavity, the cavity being disposed inside at least one of: the threaded portion and the portion of the valve body projecting into the gas cylinder, and the electromagnetic control elements being inserted into the cavity. For a discussion of these features, Applicants refer, for example and illustrative explanation, to page 13, lines 13-20 of the specification. The manual shut-off valve enables a service mechanic to interrupt gas flow from inside of the gas cylinder to the cavity containing the valve parts. The mechanic can then remove these parts from the cavity for maintenance purposes while the gas cylinder is still filled with gas. The cylinder is

tightly shut and any gas flow from the cylinder towards the cavity and out of the cavity is shut off by the manual shut-off valve.

Applicants respectfully submit that Sakaguchi does not teach or fairly suggest at least the above-noted feature as recited by Applicants. Specifically, in Sakaguchi, all valve parts are contained in an insert (so-called valve case 13; see, e.g., Fig. 2) screwed into a valve body inside the neck of the gas cylinder and the insert contains a gas channel that leads from the interior of the gas cylinder to the exterior (gas pipe to be connected to the pipe attachment part 13c). Sakaguchi does not provide for interrupting the gas flow from the inside of the gas cylinder to the outside when the insert is removed. Accordingly, Sakaguchi does not disclose a manual shut-off valve is included in the electromagnetic valve for interrupting gas flow from the gas cylinder to the cavity, the cavity being disposed inside at least one of: the threaded portion and the portion of the valve body projecting into the gas cylinder, the electromagnetic control elements being inserted into the cavity, as recited by Applicants. In view of the above, Applicants respectfully request that the rejection be reconsidered and withdrawn.

The rejection of claim 18 under 35 U.S.C. 103(a) as being unpatentable over Sakaguchi is hereby traversed and reconsideration is respectfully requested in view of the amendments to the claims contained herein. It is noted that although this rejection is stated as a rejection under "35 U.S.C. 102(b)" on page 7, obviousness to one of ordinary skill in the art is cited and therefore it appears to be more appropriately characterized as a rejection under 35 U.S.C. 103(a).

The features of the independent claims are discussed above with respect to Sakaguchi. Claim 18 depends therefrom. Applicants refer to the above-noted discussion of Applicants' recited features, as amended herein, and, in accordance therewith, submit that Sakaguchi, either alone or in combination with the analysis provided in connection with the rejection of claim 18, does not teach or fairly suggest the above-noted features that are recited by Applicants. In view of the above, Applicants respectfully request that the rejection be reconsidered and withdrawn.

The rejection of claims 1-11, 15-17 and 21-24 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,458,151 to Wass (hereinafter "Wass '151") in view of Sakaguchi is hereby traversed and reconsideration is respectfully requested in view of the amendments to the claims contained herein.

The features of the independent claims are discussed above with respect to Sakaguchi. Claims 2-11, 15, 16, 21, 22 and 24 depend therefrom.

Wass '151 discloses a crash proof solenoid controlled valve with a manual override valve. A section of the flow passage near an outer end of the valve seat includes a threaded surface, into which is threaded a manual override valve. The manual override valve is capable of being selectively positioned to block the flow passage between the solenoid valve and the outlet port. (See, e.g., Abstract, col. 7, line 60 to col. 8, line 19 and FIG. 7 of Wass '151.)

Applicants submit that Wass '151 does not overcome any of the above-noted deficiencies of Sakaguchi with respect to Applicants' presently-claimed invention. As specifically stated by

Wass '151, Wass '151 provides a manual override valve that is an override stem for blocking the flow passage between the solenoid valve and the outlet port. As discussed by Wass '151, the override stem may be advanced to isolate the solenoid valve and compressed natural gas from downstream lines (see col. 8, lines 10-19 of Wass '151). In contrast, Applicants recite that a manual shut-off valve is provided for interrupting gas flow from the gas cylinder to the cavity, the cavity containing inserted electromagnetic control elements and being disposed inside at least one of: the threaded portion and the portion of the valve body projecting into the gas cylinder. Thus, unlike the device of Wass '151 for which the manual override stem is configured and positioned in a flow passage between the solenoid valve and the outlet port (and operated to isolate the solenoid and the compressed natural gas from downstream lines), Applicants' recited manual shut-off valve interrupts gas flow from the gas cylinder to the cavity, thereby allowing for maintenance of the valve parts, as noted above, while still allowing gas to be contained in the gas cylinder.

Accordingly, Applicants respectfully submit that Wass '151 and Sakaguchi, taken alone or in combination, do not teach or fairly suggest at least the above-noted features as claimed by Applicants. In view of the above, Applicants respectfully request that the rejection be reconsidered and withdrawn.

The rejection of claim 12 under 35 U.S.C. 103(a) as being unpatentable over Wass '151 in view of Sakaguchi and further in view of U.S. Patent No. 6,260,570 to Wass, et al. (hereinafter "Wass '570") is hereby traversed and reconsideration is respectfully requested in view of the amendments to the claims contained herein.

The features of the independent claims are discussed above with respect to Wass '151 and Sakaguchi. Claim 12 depends therefrom.

Wass '570 discloses a puncture disc raft inflation valve having a one-piece valve body. The Office Action cites to Wass '570 as disclosing the head end of a valve body having chamfered edges, citing specifically to Fig. 1 of Wass '570.

Applicants submit that the addition of Wass '570 does not overcome the above-noted deficiencies of Wass '151 and Sakaguchi with respect to Applicants' present claims. Wass '570 does not disclose, nor is Wass '570 cited by the Office Action in connection with, Applicants' recited features that are discussed above with respect to Wass '151 and Sakaguchi. Accordingly, Applicants respectfully submit that Wass '151, Sakaguchi and Wass '570, taken alone or in any combination, do not teach or fairly suggest at least the above-noted features as recited by Applicants. In view of the above, Applicants respectfully request that the rejection be reconsidered and withdrawn.

The rejection of claim 13 under 35 U.S.C. 103(a) as being unpatentable over Wass '151 in view of Sakaguchi and further in view of U.S. Patent No. 5,860,884 to Jolliff (hereinafter "Jolliff") is hereby traversed and reconsideration is respectfully requested in view of the amendments to the claims contained herein.

The features of the independent claims are discussed above with respect to Wass' 151 and Sakaguchi. Claim 13 depends therefrom.

Jolliff discloses a variable speed transmission and transaxle. The Office Action cites to Jolliff as disclosing support ribs for strengthening a cover plate, citing specifically to elements 14 and 24 in Fig. 1 of Jolliff.

Applicants submit that the addition of Jolliff does not overcome the above-noted deficiencies of Wass '151 and Sakaguchi with respect to Applicants' present claims. Jolliff does not disclose, nor is Jolliff cited by the Office Action in connection with, Applicants' recited features that are discussed above with respect to Wass '151 and Sakaguchi. Accordingly, Applicants respectfully submit that Wass '151, Sakaguchi and Jolliff, taken alone or in any combination, do not teach or fairly suggest at least the above-noted features as recited by Applicants. In view of the above, Applicants respectfully request that the rejection be reconsidered and withdrawn.

The rejection of claim 15 under 35 U.S.C. 103(a) as being unpatentable over Wass '151 in view of Sakaguchi and further in view of U.S. Patent No. 6,328,347 to Reder, et al. (hereinafter "Reder") is hereby traversed and reconsideration is respectfully requested in view of the amendments to the claims contained herein.

The features of the independent claims are discussed above with respect to Wass' 151 and Sakaguchi. Claim 15 depends therefrom.

Reder discloses a uniform axial loading ground glass joint clamp. The Office Action cites to Reder as disclosing an elastic layer made of a thermoplastic polymer.

Applicants submit that the addition of Reder does not overcome the above-noted deficiencies of Wass '151 and Sakaguchi with respect to Applicants' present claims. Reder does not disclose, nor is Reder cited by the Office Action in connection with, Applicants' recited features that are discussed above with respect to Wass '151 and Sakaguchi. Accordingly, Applicants respectfully submit that Wass '151, Sakaguchi and Reder, taken alone or in any combination, do not teach or fairly suggest at least the above-noted features as recited by Applicants. In view of the above, Applicants respectfully request that the rejection be reconsidered and withdrawn.

The rejection of claim 18 under 35 U.S.C. 103(a) as being unpatentable over Wass '151 in view of Sakaguchi and further in view of U.S. Patent No. 4,800,948 to Visnic (hereinafter "Visnic") is hereby traversed and reconsideration is respectfully requested in view of the amendments to the claims contained herein.

The features of the independent claims are discussed above with respect to Wass' 151 and Sakaguchi. Claim 18 depends therefrom.

Visnic discloses a method of forming a thermally activated pressure relief valve. The Office Action cites to Visnic as disclosing a valve with safety elements having an efflux opening for preventing catastrophic ruptures, citing specifically to col. 1, lines 14-16 of Visnic.

Applicants submit that the addition of Visnic does not overcome the above-noted deficiencies of Wass '151 and Sakaguchi with respect to Applicants' present claims. Visnic does

not disclose, nor is Visnic cited by the Office Action in connection with, Applicants' recited features that are discussed above with respect to Wass '151 and Sakaguchi. Accordingly, Applicants respectfully submit that Wass '151, Sakaguchi and Visnic, taken alone or in any combination, do not teach or fairly suggest at least the above-noted features as recited by Applicants. In view of the above, Applicants respectfully request that the rejection be reconsidered and withdrawn.

Based on the above, Applicants respectfully request that the Examiner reconsider and withdraw all outstanding rejections and objections. Favorable consideration and allowance are earnestly solicited. Should there be any questions after reviewing this paper, the Examiner is invited to contact the undersigned at 508-898-8603.

Respectfully submitted,
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